Contents

Editor's Note 1

Preface 3

Diastereoselective induction in radical coupling reactions: photolysis of 2,4-diphenylpentan-3-ones adsorbed on faujasite zeolites 7
N. D. Ghatlia and N. J. Turro (New York, NY, U.S.A.)

The novel solid state and solution phase photochemistry of dimethyl 9-chloromethyl-9,10-dihydro-9,10-ethenoanthracene-11,12-dicarboxylate 21
J. Chen, P. R. Pokkuluri, J. R. Scheffer and J. Trotter (Vancouver, B.C., Canada)

Oxidative photocatalysis in the absence of oxygen: methyl viologen as an electron trap in the TiO_2-mediated photocatalysis of the Diels–Alder dimerization of 2,4-dimethyl-1,3-pentadiene 27
J. L. Muzyka and M. A. Fox (Austin, TX, U.S.A.)

Room temperature phosphorescence and delayed fluorescence of organic molecules trapped in silica sol–gel glasses 41
D. Levy (Madrid, Spain) and D. Avnir (Jerusalem, Israel)

The photochemistry of triarylmethane dyes bound to polyelectrolytes: photoinduced electron transfer involving bound dye monomers and dimers 65
G. Jones, II, C. Oh and K. Goswami (Boston, MA, U.S.A.)

Diffusional *vs.* non-diffusional fluorescence quenching at the silica gel liquid–solid and vacuum–solid interfaces: pyrene fluorescence quenching by oxygen, nitromethane and nitropropionic acid 81
R. Krasnansky and J. K. Thomas (Notre Dame, IN, U.S.A.)

End-to-end intramolecular quenching of aromatic ketone triplets in aqueous solutions of 2,6-di-(O-methyl)-cyclodextrins 97
W. J. Leigh, M. S. Workentin and D. Andrew (Hamilton, Ont., Canada)

Diffuse-reflectance laser flash photolysis studies of the photochemistry of bleached thermomechanical pulp 111
J. A. Schmidt, C. Heitner (Pointe Claire, Qué., Canada), G. P. Kelly, P. A. Leicester and F. Wilkinson (Loughborough, U.K.)

The photo-Nazarov cyclization of 1-cyclohexenyl phenyl ketone revisited. Observation of intermediates 127
J. Leitich, I. Heise, S. Werner, C. Krüger and K. Schaffner (Mülheim an der Ruhr, F.R.G.)

Lifetimes of biradicals produced in the Norrish Type I reaction of methyl-substituted 2-tetralones 153
J. C. Netto-Ferreira, V. Wintgens and J. C. Scaiano (Ottawa, Ont., Canada)

Flash photolytic generation and study of ketenes: acid-catalysed hydration in aqueous solution 165
J. Andraos and A. J. Kresge (Toronto, Ont., Canada)

Electron transfer reactions between excited diarylmethyl and triarylmethyl carbocations and aromatic donors 175
A. Azarani, A. B. Berinstain, L. J. Johnston and S. Kazanis (Ottawa, Ont., Canada)

Elsevier Sequoia/Printed in The Netherlands

ESR studies of photogenerated nitrobenzyl carbanions in aqueous solution. 191
S. Muralidharan and P. Wan (Victoria, B.C., Canada)

Solvent- and wavelength-dependent photochemistry of *N*-benzoylindole and *N*-ethoxycarbonylindole 207
D. L. Oldroyd and A. C. Weedon (London, Ont., Canada)

Azo pigments and their intermediates. On the anomalous optical absorption of bisazo pigments from 4,4′-diamino-1,1′-dianthrimide and 2-hydroxy-3-naphthanilides 217
K.-Y. Law and I. W. Tarnawskyj (Webster, NY, U.S.A.)

Photocycloadditions to 1-thiocoumarin. 231
C. Karbe and P. Margaretha (Hamburg, F.R.G.)

Reversible photochemistry of 4-nitro-substituted diphenylazomethines. 235
H. Görner (Mülheim an der Ruhr, F.R.G.) and E. Fischer (Rehovot, Israel)

Molecular interactions of dibenzoylmethanatoboron difluoride ($DBMBF_2$) in the excited and ground states in solution 247
Y. L. Chow, X. Cheng and C. I. Johansson (Burnaby, B.C., Canada)

The methylene-blue-sensitized photoreaction of quadricyclane. Mechanism of oxidation 257
T. Hatsui and H. Takeshita (Fukuoka, Japan)

A simple and convenient photodecarboxylation method of intact carboxylic acids in the presence of aza aromatic compounds 265
K. Okada, K. Okubo and M. Oda (Osaka, Japan)

Photophysical and photochemical properties of 4-(1,2,4-triazol-1-yl)-pyrimidin-2(1H)-ones 279
G. Wenska, B. Skalski and S. Paszyc (Poznań, Poland)

ZnTPP-sensitized photoreaction of α-methylstyrene in the presence of Et_3N and CCl_4 293
Y. Ito, K. Kunimoto, M. Tone and T. Matsuura (Kyoto, Japan)

Photophysics and reversible photochemistry of 1,2-diarylethylenes containing perylenyl or biphenylenyl as an aryl group 301
N. Castel, E. Fischer (Rehovot, Israel), M. Strauch, M. Niemeyer and W. Lüttke (Göttingen, F.R.G.)

Photochemistry of *cis*-4,4-diphenyl-2-cyclohepten-1-one. 317
R. A. Bunce, V. L. Taylor and E. M. Holt (Stillwater, OK, U.S.A.)

Azidobenzoyl-, azidoacridinyl-, diazocyclopentadienylcarbonyl- and 8-propyloxy-psoralen photobiotinylation reagents. Syntheses and photoreactions with DNA and protein 331
U. Henriksen, O. Buchardt and P. E. Nielsen (Copenhagen, Denmark)

Influence of counter-ion identity on the properties of dodecylsulphate micelles. A study by IR and fluorescence methods 343
E. B. Abuin, E. Lissi (Santiago, Chile) and H. L. Casal (Ottawa, Ont., Canada)

Concentration dependence of the transient effects in monomer–excimer kinetics 351
R. Xu and M. A. Winnik (Toronto, Ont., Canada)

The solvation dynamics of 4-dicyanomethylene-1,2,3,4-tetrahydromethylquinoline in alcohols 361
A. Safarzadeh-Amiri (London, Ont., Canada)

Fluorescence studies of Langmuir–Blodgett films of chlorophyll *a* mixed with phytol 373
B. Zelent, G. Munger, A. Helluy and R. M. Leblanc (Trois-Rivières, Qué., Canada)

Picosecond time resolution of the S_2 state of xanthione in 1:1 van der Waals complexes 383
A. J. Kaziska, M. I. Shchuka, S. A. Wittmeyer and M. R. Topp (Philadelphia, PA, U.S.A.)

Concerning apparent intersystem crossing efficiencies in molecules with small S_1–T_1 energy gaps 405
M. Szymanski, A. Maciejewski (Poznań, Poland) and R. P. Steer (Saskatchewan, Sask., Canada)

The dynamics of the reaction: $O(^1D_2) + H_2S \rightarrow OH(v') + HS$ 419
E. J. Kruus, B. I. Niefer and J. J. Sloan (Waterloo, Ont., Canada)

Estimates of the tropospheric lifetimes of short- and long-lived atmospheric pollutants. 429
N. J. Bunce, J. S. Nakai and M. Yawching (Guelph, Ont., Canada)

The photolysis of acetone at 308 nm 441
M. J. MacDonald and J. M. Roscoe (Wolfville, N.S., Canada)

Photoinduced electron transfer between nitroxide radicals and $W_{10}O_{32}^{4-}$ 453
J. Zakrzewski and C. Giannotti (Gif-sur-Yvette, France)

Photochemical reactions of $[(\eta^5\text{-}C_5R_5)Mn(CO)_2(NO)]^+$ ($R_5 \equiv H_5$, H_4Me, Me_5) as films and in low temperature glasses 457
B. J. Palmer, A. Becalska and R. H. Hill (Burnaby, B.C., Canada)

Cis,trans-isomerization of the dibenzylideneacetone ligand: intramolecular quenching effected by ferrocenyl group substitutions and coordination with Pd(0) and Pt(0) 465
P. D. Harvey, C. Aubry, L. Gan and M. Drouin (Sherbrooke, Qué., Canada)

Axial coordination of azaferrocene and dioxygen to cobalt(II) porphyrins. Photochemistry of six-coordinated adducts 479
J. Zakrzewski and C. Giannotti (Gif-sur-Yvette, France)

Author Index 491

Subject Index 493